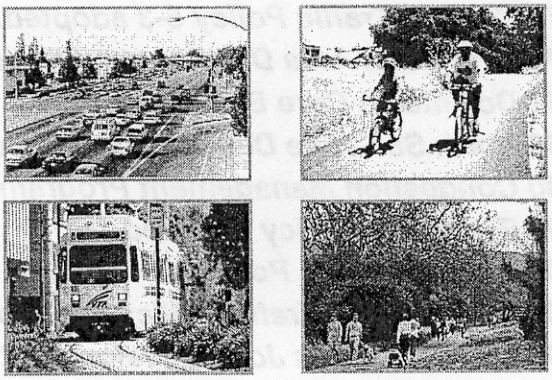
# Evergreen/East Hills Vision Strategy Transportation Analysis



*Presentation to*
*Evergreen Task Force*

*November 14, 2005*

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

# Introduction

- ***Purpose***
  1. *Review purpose and process for the Traffic Impact Analysis (TIA)*
  2. *Provide historical background for Evergreen and the Evergreen Area Development Policy*
  3. *Provide details on the analysis and improvements for EEHVS*
- ***Presentation Content***
  - *TIA process and purpose*
  - *Evergreen background*
  - *EEVHS analysis and improvements*
- ***Key Staff/Consultants***
  - *Hans Larsen, Manuel Pineda, San José DOT*
  - *Gary Black, Hexagon*

## *Transportation Policy History*

- *1975 General Plan adopted.*
- *1978 Council Traffic Policy 5-3 adopted.*
- *1976 Evergreen Area Development Policy.*
- *1981 Downtown Core Exempted.*
- *1988 North San Jose Development Policy.*
- *1990 Congestion Management Program.*
- *1998 Evergreen Policy Updated.*
- *2000 Edenvale Area Policy.*
- *2005 New Council Traffic Policy 5-3 adopted*
- *2005 New North San Jose Development Policy*
- *2005 Amend Edenvale Area Development Policy*
- *2005 Expand Downtown Core*

## *Transportation and Area Development Policies Purpose*

- *Growth Management Tool*
  - *Establishes threshold for environmental impact assessment*
  - *Requires new development to mitigate traffic impacts*
  - *Determine growth locations*
- *Goals*
  - *Protect neighborhoods*
  - *Manage congestion*
  - *Build transportation infrastructure*
  - *Allow development at key locations*

# *Purpose of Traffic Impact Analysis (TIA)*

- ***To Satisfy Transportation Policies***
  - ***Traffic Level of Service Policy (5-3).***
  - ***Area Development Policies***
  - ***Congestion Management Program (CMP).***
  - ***CEQA - Environmental Review***
- ***Determine Development Conditions***
  - ***Traffic Impacts of future development.***
  - ***Neighborhood issues***
  - ***Status and condition of roadways, bicycle routes, transit.***
  - ***Operational analysis.***

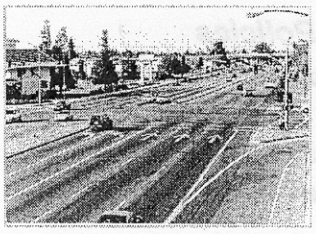
# *Citywide LOS Policy Summary*

***Traffic Level of Service Policy***

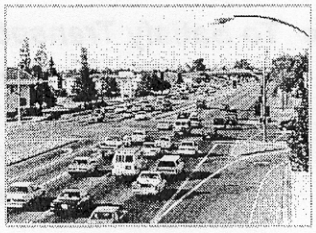
1. ***Describe LOS congestion ratings ("A" through "F") during AM and PM peak hour***

# Traffic LOS Definition

- *Measure of intersection traffic condition*



*LOS "A"*



*LOS "C"*

*LOS "D"*

*LOS "F"*

# Citywide LOS Policy Summary

***Traffic Level of Service Policy***

1. *Describe LOS congestion ratings ("A" through "F") during AM and PM peak hour*

# *Citywide LOS Policy Summary*

***Traffic Level of Service Policy***

1. ***Describe LOS congestion ratings ("A" through "F") during AM and PM peak hour***
2. ***Establish LOS "D" as City wide goal (maximum congestion threshold)***
3. ***Require mitigation for significant LOS Impacts (when impacts are greater than 1% and 4 seconds to LOS "E" and "F" intersections)***
4. ***Define "unacceptable" mitigation measures (impacts to pedestrian, bicycle and transit facilities)***

# *Outline for New Transportation Impact Policy*

***Exceptions to Traffic LOS Policy***

7. ***Allow exceptions to LOS "D" for:***
   a. ***Downtown Core***
   b. ***Small "in-fill" projects having less than a 1% congestion impact***
   c. ***"Special Planning Areas" (major transit corridors, rail transit station areas, Specific Plan areas, and neighborhood business districts)***

# *Outline for New Transportation Impact Policy*

***Exceptions to Traffic LOS Policy - NEW***

8. ***For congestion impacts in Special Planning Areas that can't be mitigated, allow for policy exceptions (with an EIR), and:***
   a. ***Require "offsetting transportation improvements" that improve multi-modal transportation facilities and improve livability for adjacent community***
   b. ***Require new development to build "offsetting improvements" at time of development that:***
      i. ***Have a fixed value based on size of development***
      ii. ***Are identified through an adopted City plan or based on a community outreach process***

# *Determining Project Impacts*

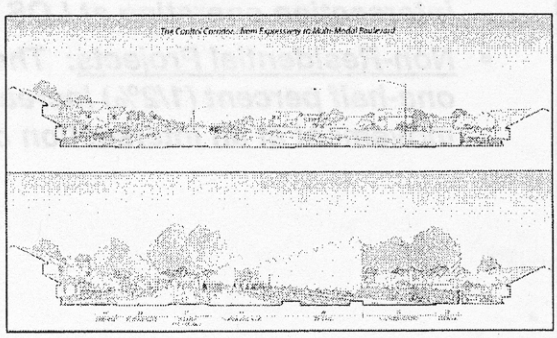
- ***Project assumptions***
- ***Peak Hour Analysis***
- ***Trip Generation, Trip Distribution***
- ***Existing traffic + Approved Trips = Background.***
- ***Background + Project traffic = determine impact.***
- ***Operational impacts.***
- ***Community, neighborhood issues.***

# Definition of Significant Impact

- *Significant impact:*
  - *From LOS "D" or better to LOS "E" or "F".*
  - *At LOS "E" or "F", increase critical volume by 1% and increase critical delay by 4 seconds.*
- *If comparison of background to project exceeds threshold:*
  - *Considered significant environmental impact*
  - *Requires mitigation.*

# Evergreen History

- *Geographic Assets and Challenges*
- *Land Use and Transportation Coordination*
  - *City's 1st Special Development Policy*
  - *101/Yerba Buena Interchange*
  - *Evergreen Specific Plan and Traffic Policy*
  - *Current and Future Traffic Patterns*
- *Light Rail Extension*
  - *Providing Transportation Choices*



## *Current Evergreen Area Development Policy*

*Context*

- *Benefit Assessment District formed to fund improvement and create "traffic allocation"*
- *4759 residential units*
- *11,600 industrial employees*
- *Some commercial development (Restaurants, Health Club, Retail, etc.)*
- *9.5 million dollars towards transportation improvements*
- *Projects without traffic allocation must conduct a traffic analysis and mitigate traffic impacts*

## *Current Evergreen Area Development Policy*

*Impacts*

- *An increase in traffic causing any LOS designation to change*
- *Residential Projects: The addition of any traffic to an intersection operating at LOS E or F*
- *Non-Residential Projects: The addition of more that one-half percent (1/2%) increase in critical traffic movement at an intersection operating at LOS E or F*

# *Current Evergreen Area Development Policy*

***Results of Current Policy***

- ***Currently approved residential, commercial, and industrial land can develop***
- ***Moderate in-fill commercial can develop***
- ***Minor in-fill housing can develop***
- ***Other development to wait until "traffic goals" are met***

# *Evergreen Challenges*

- ***Access is limited by physical barriers to south and west***
  - ***Routes 101 and 680***
- ***Housing development has outpaced "reverse commute" job development***
  - ***Edenvale***
  - ***Evergreen Campus Industrial***
- ***Congested freeway segments and 101 gateways***
- ***Lack of transportation choices***
- ***More neighborhood serving commercial businesses are desired***
- ***Current policy severely restricts housing and large commercial uses***
- ***Traffic mitigation opportunities are limited and expensive***

# EEHVS Traffic Analysis Overview

- *Step 1: Development Proposal*
  - *Analyze multiple scenarios*
- *Step 2: Trip Generation*
  - *Standard trip rates*
- *Step 3: Trip Distribution*
  - *Traffic Forecast Model*
- *Step 4: Congestion Analysis*
  - *Intersection Level of Service (LOS)*
  - *"A" through "F" ratings*
- *Step 5: Freeway Analysis*

# Transportation Elements

**Major Access**
- Freeways
- Expressways
- Arterials
- Intersections
- Transit

**Bike/Ped System**
- Pedestrian Facilities
  - Sidewalks
  - Curb Ramps
- Trails
- Overcrossings
- Bike Lanes

**Operational Improvements**
- Traffic Signals
  - New Signals
  - Signal Modifications
- Intelligent Transportation Systems (ITS)
  - Signal Coordination
  - Monitoring Cameras

**Livability Enhancements**
- Landscaping
  - Median Islands
  - Street Trees
- Neighborhood Traffic Calming
- Pedestrian Enhancements
  - Countdown Signals
  - High Visibility Crosswalks

# Traffic Analysis

- *Traffic Generation*
  - *ITE and City trip generation rates*
  - *Example of Evergreen trip generation for Scenario V*
  - *CSJ and VTA approved credits*

| Development | Size | | Pk-Hr Rate | AM Peak Hour In | Out | Total |
|---|---|---|---|---|---|---|
| Pleasant Hills | | | | | | |
| Single Family Detached | 460 | units | 0.99 | 159 | 296 | 455 |
| Single Family Attached | 460 | units | 0.75 | 121 | 224 | 345 |
| Sub Total | 920 | units | | 280 | 520 | 800 |
| Arcadia | | | | | | |
| Single Family Attached | 3,000 | units | 0.75 | 788 | 1,463 | 2,250 |
| Evergreen Valley College | | | | | | |
| Single Family Attached | 150 | units | 0.75 | 39 | 244 | 375 |
| General Office | 75,000 | s.f. | 2.80 | 189 | 21 | 210 |
| Sub Total | | | | 320 | 265 | 585 |
| Legacy | | | | | | |
| Single Family Detached | 700 | units | 0.99 | 243 | 450 | 693 |
| Berg/IDS | | | | | | |
| Single Family Detached | 1,500 | units | 0.99 | 520 | 965 | 1,485 |
| Miscellaneous Locations | | | | | | |
| Single Family Detached | 460 | units | 0.70 | 173 | 322 | 495 |
| Grand Total: | | | | | | |
| Single Family Detached | 3,160 | units | | 1,095 | 2,033 | 3,128 |
| Single Family Attached | 3,960 | units | | 1,040 | 1,931 | 2,970 |
| Office | 75,000 | s.f. | | 189 | 21 | 210 |
| | | | | 2,323 | 3,985 | 6,308 |

*DRAFT-To be replaced with Table for Scenario V*

*Preliminary development assumptions. Subject to change.*

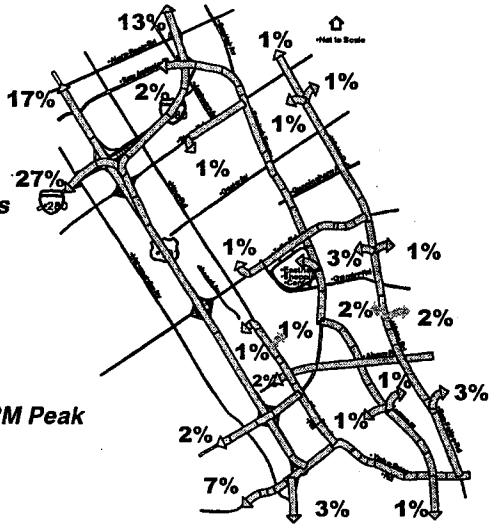
# Traffic Analysis

- *Traffic Generation*
  - *ITE and City trip generation rates*
  - *Draft example of Evergreen trip generation for Scenario V*
  - *CSJ and VTA approved credits*

| Site | Use | Size | units | rate | AM Peak Hour in | out | total |
|---|---|---|---|---|---|---|---|
| Arcadia | attached residential | 1,875 | d.u. | 0.75 | 492 | 914 | 1,406 |
| | *(approved detached resid.)* | (217) | d.u. | 0.99 | (75) | (140) | (215) |
| | regional retail | 300,000 | s.f. | 1.00 | 210 | 90 | 300 |
| | community center | 40,000 | s.f. | n/a | 94 | 13 | 107 |
| | adult sports complex | 4 | fields | n/a | 2 | 0 | 2 |
| | swimming pool | 1 | - | n/a | 6 | 2 | 8 |
| | internal trips | | | | (44) | (12) | (56) |
| Evergreen Valley College | attached residential | 500 | d.u. | 0.75 | 131 | 244 | 375 |
| | neighborhood retail | 100,000 | s.f. | 4.80 | 288 | 192 | 480 |
| | office | 95,000 | s.f. | 2.80 | 239 | 27 | 266 |
| | branch library | 23,000 | s.f. | n/a | 20 | 7 | 27 |
| | *(existing office)* | (20,000) | s.f. | 2.80 | (50) | (6) | (56) |
| | *(existing criminal justice training center)* | (32,000) | s.f. | 2.80 | (81) | (9) | (90) |
| | internal trips | | | | (8) | (6) | (14) |
| Pleasant Hills | detached residential | 150 | d.u. | 0.99 | 52 | 97 | 149 |
| | attached residential | 675 | d.u. | 0.75 | 177 | 329 | 506 |
| | fire station | 1 | acre | n/a | 4 | 4 | 8 |
| Legacy/ Berg | detached residential | 1,575 | d.u. | 0.99 | 546 | 1,013 | 1,559 |
| | attached residential | 375 | d.u. | 0.75 | 98 | 183 | 281 |
| | youth baseball facility | 3 | fields | 1.40 | 2 | 2 | 4 |
| | *(approved campus indust)* | (4,660,000) | s.f. | 1.28 | (4,772) | (1,193) | (5,965) |
| Quimby/ White | neighborhood retail | 101,740 | s.f. | 4.80 | 293 | 195 | 488 |
| | *(exist. neighborhood retail)* | (66,740) | s.f. | 4.80 | (192) | (128) | (320) |
| Various | detached residential | 550 | d.u. | 0.99 | 191 | 354 | 545 |
| | retail | 65,000 | s.f. | 4.80 | 187 | 125 | 312 |
| | various non-residential | 500 | peak-hour trips | | 375 | 125 | 500 |
| All | Total Project Trips | | | | (1,815) | 2,422 | 607 |

# Traffic Analysis

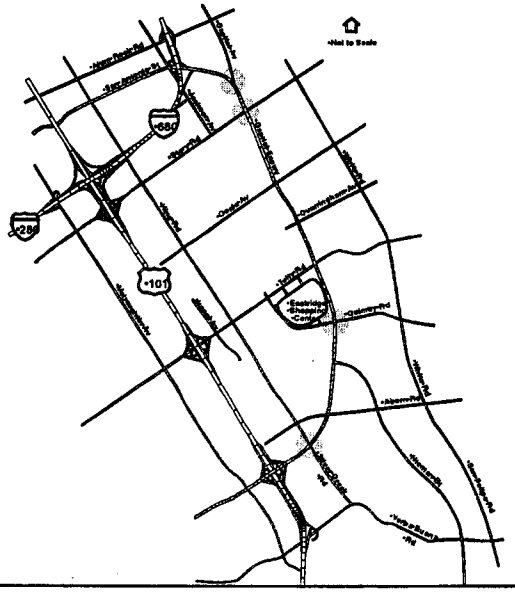
- *Traffic Generation*
  - *ITE and City trip generation rates*
  - *Draft example of Evergreen trip generation for Scenario V*
  - *CSJ and VTA approved credits*
- *Traffic Distribution*
  - *Transportation model used to distribute traffic*
- *Analyze LOS Intersections (AM/PM Peak Hour)*




# Potential Preliminary LOS Transportation Information

***Existing LOS***

- *Current Traffic Counts*
- *99 Intersections*
- *Preliminary Results*
  - *LOS E Intersection (4)*
  - *LOS F Intersection (0)*



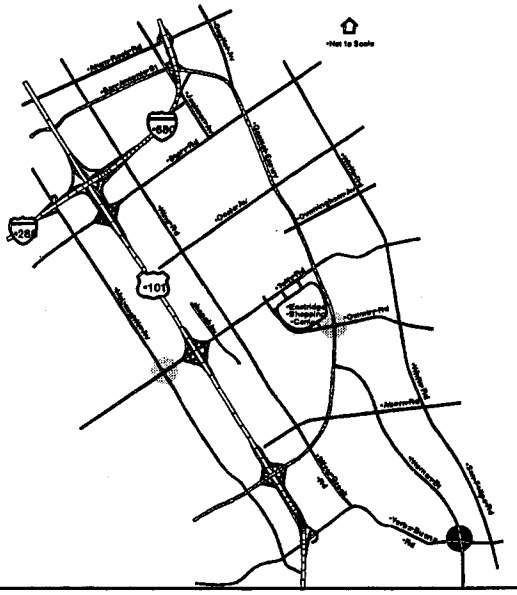
# Potential Preliminary LOS Transportation Information

***Existing LOS***

- *Current Traffic Counts*
- *99 Intersections*
- *Preliminary Results*
  - *LOS E Intersection (4)*
  - *LOS F Intersection (0)*

***Background LOS***

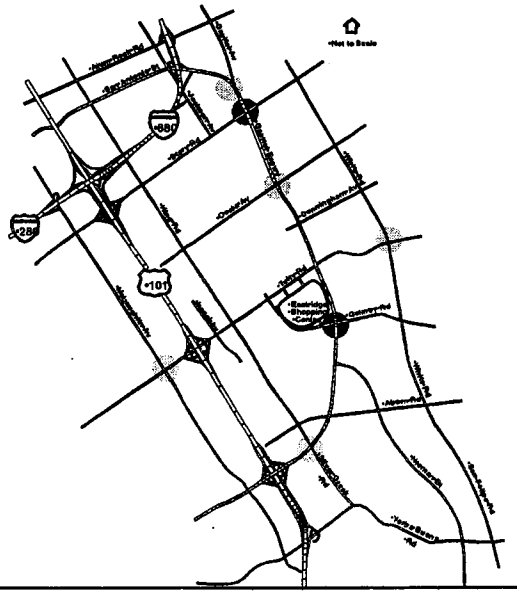
- *Approved Development*
- *Funded Improvements*
- *LRT Extension*
- *99 Intersections*
- *Preliminary Results*
  - *LOS E Intersection (3)*
  - *LOS F Intersection (1)*



# Potential Preliminary LOS Transportation Information

***Project LOS***

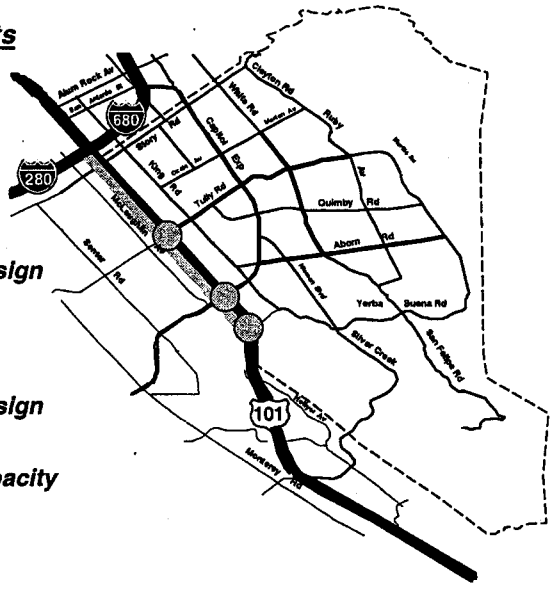
- *Scenario V*
- *Improvements*
  - *Freeway*
  - *Street Improvements*
  - *Intersections*
- *Analyzed 99 intersections*
- *Preliminary LOS With Improvements*
  - *LOS E Intersections (4)*
  - *LOS F Intersections (2)*



# Freeway Analysis

***Scope of Route 101 Projects***

- *Yerba Buena Upgrade*
  - *New NB on-ramp*
- *Capitol Upgrade*
  - *"Partial Cloverleaf" Design*
  - *Additional lanes*
- *Tully Upgrade*
  - *"Partial Cloverleaf" Design*
  - *HOV bypass lanes*
  - *Additional Storage Capacity*
- *101 Widening*



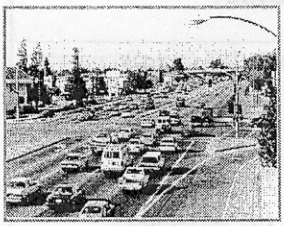

# Freeway Ramp Analysis

***(AM, Northbound Direction)***

| LOCATIONS | EXISTING CONDITIONS<br>Wait Time (min:sec) |
|---|---|
| Story Road | 3:30 |
| Tully Road | 10:00 |
| Capitol Expwy | 6:30 |
| Yerba Buena Road | 13:15 |
| OVERALL<br>(Average at 4 locations) | 8:15 |

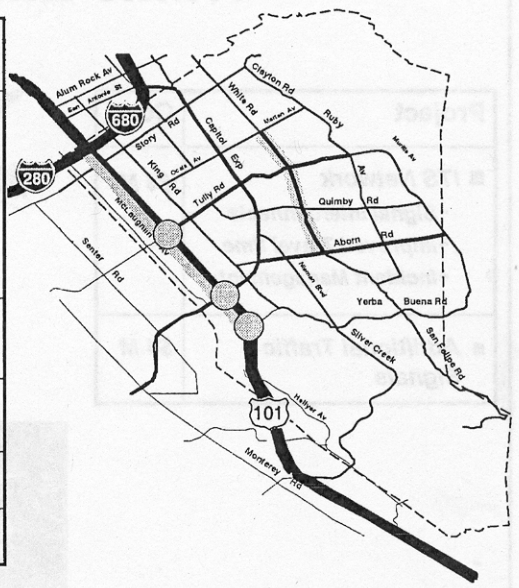
# Evergreen Transportation Plan

- *Base Improvements*
  *(Part of traffic analysis assumptions)*
  - *Freeway*
  - *Street*
  - *Intersections*
- *Other Transportation Improvements*
  - *Transit*
  - *Bike/Ped Facilities*
  - *Traffic Efficiency*
  - *Traffic Calming*
  - *Aesthetics/Landscaping*
  - *Neighborhood Conveniences*



# Base Improvements

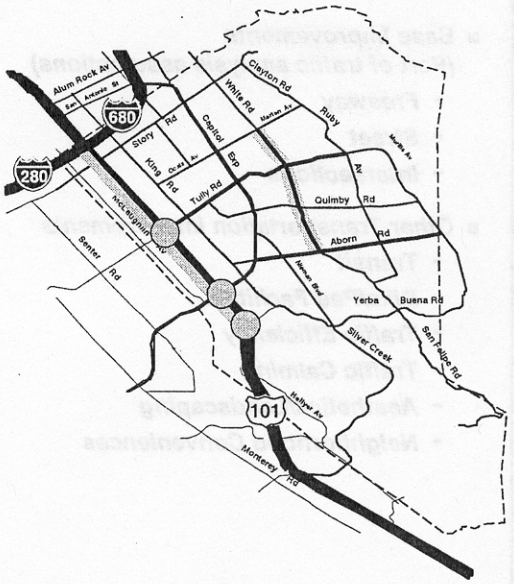
| Project | Cost |
|---|---|
| *Route 101 Improvements*<br>■ *Capitol upgrade*<br>■ *Yerba Buena upgrade*<br>■ *Tully upgrade*<br>■ *101 widening* | *$82 M* |
| ■ *White Road Improvement* | *$10 M* |
| ■ *Intersection Modifications* | *$7 M* |
| ■ *New Traffic Signals* | *$5 M* |
| *Total* | *$104 M* |




*Preliminary costs. Subject to change.*

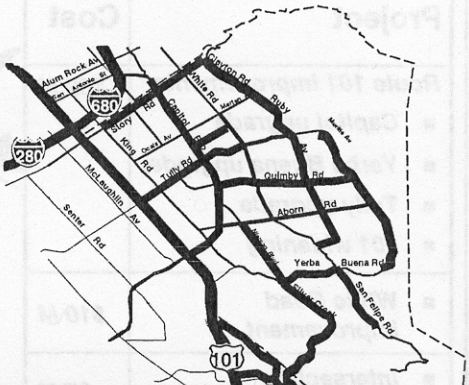
# Base Improvements

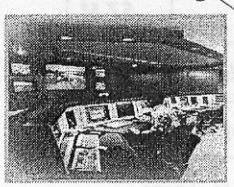
| Project |
|---|
| *Route 101 Improvements*<br>■ *Capitol upgrade*<br>■ *Yerba Buena upgrade*<br>■ *Tully upgrade*<br>■ *101 widening* |
| ■ *White Road Improvement* |
| ■ *Intersection Modifications* |
| ■ *New Traffic Signals* |

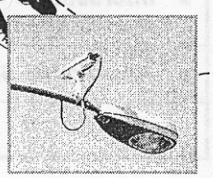



# Other Improvements Traffic Efficiency

| Project | Cost |
|---|---|
| ■ *ITS Network*<br>*-Signal Interconnects*<br>*-Improved Travel time*<br>*-Incident Management* | *$4 M* |
| ■ *Additional Traffic Signals* | *$4 M* |

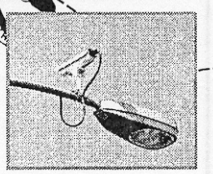




# Other Improvements
# Traffic Efficiency

| Project |
| --- |
| ■ *ITS Network*<br>- *Signal Interconnects*<br>- *Improved Travel time*<br>- *Incident Management* |
| ■ *Additional Traffic Signals* |

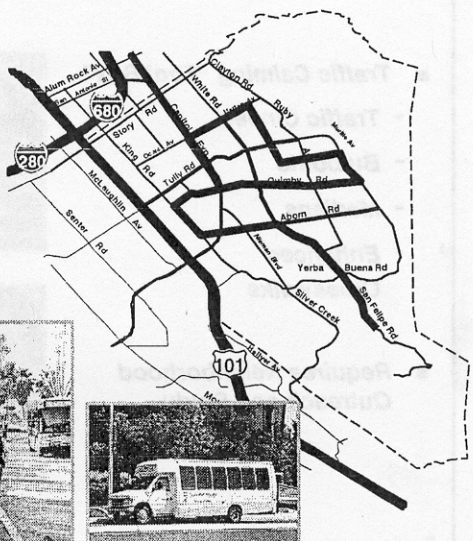
# Other Improvements
# Transit

*Existing Transit*

- *Existing Bus Lines Within Evergreen (31, 39)*
- *Light Rail Transit*

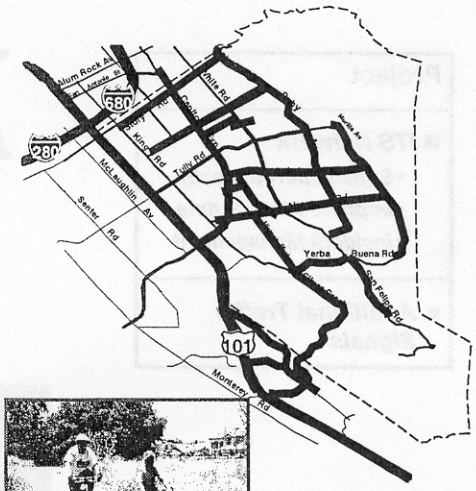
*Improvement Examples*

- *Shuttle System*
- *Enhanced Bus Shelters*



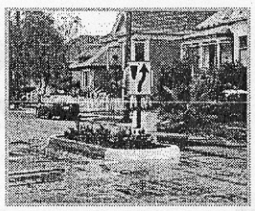

# Other Improvements
# Bike/Ped Facilities

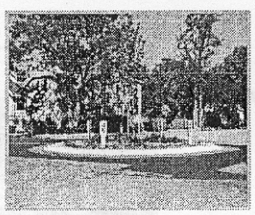
| Project |
| --- |
| ■ *Thompson Creek Trail* |
| ■ *Nieman and Lake Cunningham Ped Overcrossings* |
| ■ *Bike Lanes* |
| ■ *Capitol Upgrade* |

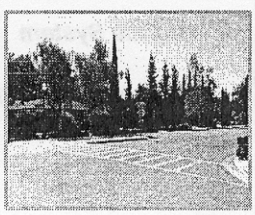



# Other Improvements
# Traffic Calming

- *Traffic Calming "Tool Box"*
  - *Traffic Circles*
  - *Bulbouts*
  - *Medians*
  - *Enhanced Crosswalks*
- *Requires Neighborhood Outreach and Study*

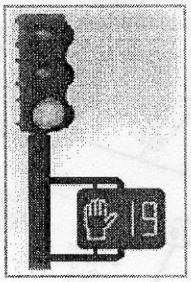


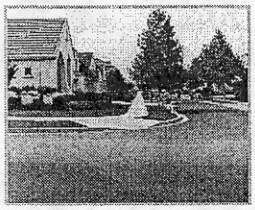


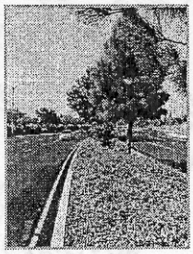


# Other Improvements

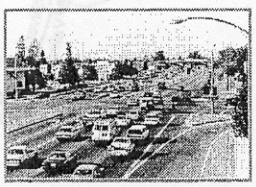
| Project |
| --- |
| ▪ *Curb Ramps* |
| ▪ *Ped Countdown Signals* |
| ▪ *Median Landscaping* |
| ▪ *Street Trees* |

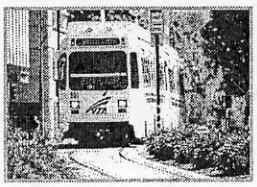


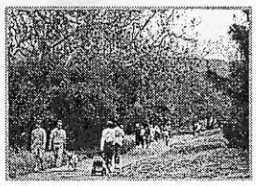




# Evergreen/East Hills Vision Strategy Transportation Analysis







*Presentation to*
*Evergreen Task Force*

*November 14, 2005*

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY